

WHAT IS CLAIMED IS:

1. Apparatus for holding an organ or tissue for at least one of perfusion, storage, diagnosis and transport of the organ, comprising:

a portable housing;

an organ or tissue supporting surface configured to support the organ or tissue within said portable housing while allowing effluent medical fluid to pass through said organ or tissue, wherein the portable housing is configured to be received by at least one of a perfusion device, a transporter and a diagnostic device, wherein the portable housing includes one or more openings configured to allow tubing to pass through said openings and be connected to the organ or tissue and wherein the portable housing includes a pressure control valve to allow pressure inside the portable housing to be varied.

2. The apparatus of claim 1, wherein the portable housing includes more than one pressure control valve.

3. The apparatus of claim 1, wherein the pressure control valve includes a filter.

4. The apparatus of claim 1, wherein the portable housing includes a lid and the pressure control valve is arranged in the lid.

5. The apparatus of claim 1, wherein the portable housing includes more than one lid and each of the more than one lid includes at least one pressure control valve.

6. The apparatus of claim 1, wherein the portable housing further comprises a pressure sensor.

7. The apparatus of claim 6, wherein the pressure sensor is referenced to a desired pressure.

8. The apparatus of claim 7, wherein the desired pressure is atmospheric pressure.

9. Apparatus for holding an organ or tissue for at least one of perfusion, storage, diagnosis and transport of the organ, comprising:

a portable housing;

an organ or tissue supporting surface configured to support the organ or tissue within said portable housing while allowing effluent medical fluid to pass through said organ or tissue, wherein the portable housing is configured to be received by at least one of a perfusion device, a transporter and a diagnostic device, wherein the portable housing includes one or more openings configured to allow tubing to pass through said openings and be connected to the organ or tissue and wherein the portable housing includes a closable vent to allow pressure inside the portable housing to be varied.

10. The apparatus of claim 9, wherein the closable vent includes a filter device

11. The apparatus of claim 9, wherein the portable housing includes a lid and the closable vent is arranged in the lid.

12. The apparatus of claim 9, wherein the portable housing includes more than one lid
and each of the more than one lid includes at least one closable vent.

13. Apparatus for holding an organ or tissue for at least one of perfusion, storage, diagnosis and transport of the organ, comprising:

a portable housing;

an organ or tissue supporting surface configured to support the organ or tissue within said portable housing while allowing effluent medical fluid to pass through said organ or tissue, wherein the portable housing is configured to be received by at least one of a perfusion device, a transporter and a diagnostic device, wherein the portable housing includes one or more openings configured to allow tubing to pass through said openings and be connected to the organ or tissue and wherein the portable housing includes at least two devices to allow pressure inside the portable housing to be varied, wherein one of the devices is a pressure control valve, and another device is a membrane.

14. The apparatus of claim 13, wherein the portable housing further comprises a lid, and the at least two devices are located in the lid.

15. The apparatus of claim 13, wherein the portable housing further comprises two lids, and at least one of the at least two devices is located in each of the two lids.

16. The apparatus of claim 13, wherein the membrane is a hydrophobic membrane.

17. The apparatus of claim 16, wherein pores of the membrane are small enough to prevent bacteria from entering the portable housing.

18. The apparatus of claim 13, wherein the membrane is a substantially impermeable membrane.

19. The apparatus of claim 13, wherein the pressure control valve includes a filter.

20. The apparatus of claim 14, wherein one of the devices is a closable vent and another device is a membrane.

21. The apparatus of claim 20, wherein the closable vent includes a filter.

22. Apparatus for holding an organ or tissue for at least one of perfusion, storage, diagnosis and transport of the organ or tissue, comprising:

a portable housing;

an organ or tissue supporting surface configured to support the organ or tissue within said portable housing while allowing effluent medical fluid to pass through said organ or

tissue, wherein the portable housing is configured to be received by at least one of a perfusion device, a transporter and a diagnostic device, wherein the portable housing includes one or more openings configured to allow tubing to pass through said openings and be connected to the organ or tissue and wherein the portable housing includes one or more substantially impermeable membranes to allow pressure inside the portable housing to be varied.

23. The apparatus of claim 22, wherein the portable housing includes a lid and the one or more substantially impermeable membranes are arranged in the lid.

24. The apparatus of claim 22, wherein the portable housing includes more than one lid and each of the more than one lid includes at least one substantially impermeable membrane.

25. A method of at least two of perfusion, storage, and transport of an organ or tissue, comprising:

placing the organ or tissue in a portable housing;

placing the portable housing containing the organ or tissue in a transporter and transporting the organ or tissue in said portable housing in said transporter; without removal of the organ or tissue from the portable housing, wherein the portable housing is configured with a pressure control valve to allow pressure inside the portable housing to be varied.

26. The method of claim 25, wherein the pressure control valve controls a rate at which external pressure change is transmitted to the portable housing.

27. The method of claim 25, further comprising maintaining pressure of the portable housing at a desired pressure.

28. The method of claim 27, wherein the desired pressure is atmospheric pressure.

29. The method of claim 26, wherein the portable housing further comprises a lid and the pressure control valve is located in the lid.

30. The method of claim 26, wherein the pressure control valve includes a filter to prevent one or more contaminants from passing through the membrane.

31. The method of claim 30, wherein one of the contaminants is bacteria.

32. The method of claim 25, further comprising controlling a pressure inside the portable housing so that the pressure inside the portable housing is substantially equal to a pressure outside the portable housing.

33. A method of at least two of perfusion, storage, and transport of an organ or tissue, comprising:

placing the organ or tissue in a portable housing;

controlling a rate at which external pressure change is transmitted to the portable housing.

34. The method of claim 33, wherein the pressure change transmitted to the portable housing is controlled by a pressure control device.

35. The method of claim 34, wherein the portable housing further comprises a lid.

36. The method of claim 34, wherein the pressure control device is a pressure control valve.

37. The method of claim 34, wherein the pressure control device is a substantially impermeable membrane.

38. The method of claim 34, wherein the pressure control device is a closable vent.

39. The method of claim 34, further comprising maintaining pressure of the portable housing at a desired pressure.

40. The method of claim 39, wherein the desired pressure is atmospheric pressure.

41. The method of claim 35, wherein the pressure control device is located in the lid.

42. The method of claim 36, wherein the pressure control valve includes a filter to prevent at least one contaminant from entering the portable housing.

43. The method of claim 38, wherein the closable vent includes a filter to prevent at least one contaminant from entering the portable housing.

44. The method of claim 35, further comprising placing the portable housing containing the organ or tissue in a perfusion apparatus and perfusing the organ or tissue in said portable housing in said organ perfusion apparatus.

45. The method of claim 44, further comprising placing the portable housing containing the organ or tissue in a transporter and transporting the organ or tissue in said portable housing in said transporter; without removal of the organ or tissue from the portable housing.

46. The method of claim 39, further comprising controlling a pressure inside the portable housing so that the pressure inside the portable housing is substantially equal to a pressure outside the portable housing.

47. The method of claim 37, wherein the membrane is a hydrophobic membrane.